PHILADELPHIA NEUROLOGICAL SOCIETY.

Stated Meeting January 26, 1886.

J. H. MUSSER, M.D., presented some notes of thirteen cases of tubercular meningitis.

All of the cases were observed in private practice, hence the lack of detail of symptoms, such as temperature, etc. They occurred in a period of six years. Nine of them were in the writer's private practice, two in institutions under his care, and two in the practice of medical friends. It may be considered a disease of frequent occurrence, for the relative proportion of its frequency to that of many other diseases, as forms of liver disease, is much in excess. The nine cases occurred in a practice ranging from 50 to 400 families yearly, during the six years. For every case of tubercular meningitis, the writer has had twenty-five of phthisis. During the same period one case each of tubercular peritonitis and interstitial tuberculosis have been under his care. In later years the disease has been less frequently seen, corresponding with the social improvement of the practice. In the first half, six cases were observed. In the latter half, the remaining ones. The mortality table of the "Homes" to which the writer has been physician, present some interesting features in this connection. In one Home of one hundred and eighty boys, aged from three to sixteen, and 30 adults, but three cases of tubercular meningitis occurred in five years. In a Home for twenty-four colored children of both sexes, mean age seven years, the disease was not observed in four years. In a third Home for children, both sexes, about eighty in number, in the records of twelve years no death occurred from this disease. During the same period of observation of these nine cases, five cases of hydrocephaloid disease, one of cerebro-spinal meningitis, and two of syphilitic meningitis were observed.

Causes: Seven of the cases were males, and six females, making sex of no causal influence. The ages ranged from seven months to fourteen years in twelve cases. One was thirty-two. Six of the patients were under five years, four between five and ten, and two between ten and fifteen. The ancestors of nine had tuberculosis in some form. In two other instances the children of the same generation had some tubercular affection. In only two cases was there no antecedent or coincident history of tuberculosis in the family. One of the patients, aged seven months, was nursed by a mother whose tubercular disease antedated her pregnancy.

The hygienic surroundings in the large number of cases were quite fair. Two alone could be pronounced as bad. One child had been weaned early in life, and improperly fed. The previous health of all save one or two was bad. Some remote local inflammatory foci, either of simple or specific nature, could be determined. In one, aged fifteen months, the bronchial and mesenteric glands, after a whooping-cough or diarrhœa, were diseased; asthma and bronchitis, with enlarged bronchial glands, no doubt, preceded in another; hip-joint disease, suppurating cervical lymphatics, chronic bronchitis, and phthisis, respectively, preceded in four cases. Very poor health in one instance, and "weak" lungs in another, also preceded. In one, the health had apparently been good; in two the state of the health was not noted. Exposure to the sun was thought to be the cause of the twelfth, but the lad was always fragile, and had diarrhœas. The nursing baby completes the list—she was always delicate.

Clinical Course: In general, it may be said to be irregular. In six cases the periods of invasion, excitation, and depression could be traced. In two instances the stage of invasion or the premonitory symptoms was absent entirely. In the other cases the stages were "mixed."

The following summary indicates the mode of development of the entire series. Case I. was a girl aged sixteen months; antecedent cause, whooping-cough and tabes mesenterica; slight general spasm, followed in a few hours by convulsions of right side of body with aphasia. In Case II., boy aged four, with asthma, etc., there were loss of flesh for four weeks, intermitting headache ten days, vertigo three days, was peevish and restless at night. Case III., girl aged ten years, had for one year headache and vertigo, extreme emaciation (cerebellar tumor). In Case IV, there were loss of flesh, debility, restlessness, and poor appetite for several weeks. The course of the fifth was not known, while the sixth had been ill ten days definitely ; for a brief time loss of flesh with pain in the left temple, sleeplessness and constipation had been present. Sharp paroxysmal headache tormented the seventh case, a youth of nine, for three days prior to the meningitic explosion. Until twenty-four hours before very active symptoms occurred, the eighth case, an infant under two years, was considered in perfect health. Prolonged lassitude, fretfulness, and some emaciation, preceded the illness of Case IX., a boy of eight. For four weeks the tenth case, a precocious little girl five years old, suffered from symptoms not unlike malaria—languor, emaciation, fretfulness, irregular intermitting fever, restlessness at night, poor appetite, without vomiting or constipation. The eleventh case had phthisis, but observed that his customary hectic had quitted him two weeks before the development of headache and vertigo, which symptoms antedated the active brain symptoms by four days. The twelfth case did not thrive as a nursing baby should, and vomited frequently. A convulsion was the first warning of cerebral trouble. A little girl, lost appetite, was peevish, slept poorly, was feverish and became emaciated for three weeks before the cerebral symptoms developed. She had lymphatic enlargement in the neck and abdomen. Emaciation, debility, fretfulness, night-restlessness, irregular febrile movement, disorders of the gastro-intestinal tract, and headache were therefore the chief premonitory symptoms. Emaciation, it is seen, was the most frequent and most marked.

An analysis of the phenomena of the first and second stages would be tedious and without practical value. Reference in the succeeding notes will be made to some salient groups of symptoms, present more or less in both stages, and to peculiar manifestations of common symptoms. *Headache*, *motor* and *sensory irritations*, and *palsies* occurred in all the cases. In a few, the *headache* was distinctly intermitting. The *spasms* and *palsies* of groups of muscles were irregular in respective cases, as to order or frequency. Hourly change in the state of the muscles was common, and the same may be said regarding sensation. Not only does this apply to alterations of function of spinal but also of cerebral nerves. Convulsions (partial, unilateral, or general), delirium, and coma were present at the usual period, but presented no peculiar feature.

Special senses: Total blindness was observed in one case ; impairment of vision in five ; optic neuritis was recorded in three. The state of the pupils was not of special import—in one instance was there irregularity in size in the second stage. In the first stage they were not affected, save contracted in one instance, and fixed, in a dilated state, in another. Dilatation was the rule in the second stage. Nystagmus was observed in one case. Purulent conjunctivitis occurred in eight cases, in the second stage usually, and in two instances were unilateral. Ptosis was present in only one case.

In five instances local erythema and general flushings were noted. An urticaria-like rash was seen in three instances. In the latter stages pallor or a bluish hue of the face was observed. V unilateral mottling of the extremities was observed. Emaciation was marked and persistent in the prolonged cases, nine in all. Fever was present in the first stage in seven cases ; in the second, in nine ; intermitting in type, often with irregular paroxysms. Hyperpyrexia was noted in one. The *pulse* was slow seven times in the first stage ; irregular or intermitting in four. In the second stage it was usually quickened, small, rapid, and feeble ; twice, slow and irregular. It was never wiry or corded in either stage.

Vomiting occurred but three times in the first stage ; once only in the premonitory stage, and once only in the final stage. Constipation was seldom observed—three times in the first, twice in the second stage. Diarrhœa was excessive once. Offensiveness of the *breath* was very frequent, and occurred chiefly in the last stage, but was so marked at first, also, in three cases, as to be noted. In the larger (nine) number of instances, the tongue was heavily coated. The scaphoid abdomen occurred at varying periods : once in the first stage, seven times in the second stage, while three times it is recorded absent ; twice there is no record. Respiratory symptoms : first stage, irregular or Cheyne-Stokes four times, rapid twice, slow once. Second stage, Cheyne-Stokes twice, rapid six times.

Remissions of a decided character were noted twice ; after the development of the most grave symptoms, a period of improvement led to hopes of recovery.

Duration : Of premonitory symptoms, unknown twice ; prolonged, once ; one year, once, tumor in two cases, about four weeks ; in two, ten days ; in one each, three days and twenty-four hours ; in two they were absent, and in two the first stage developed at once.

First stage: Twelve hours, 2; four days, 2; five days, 2; ten days, 2; eleven days, 1; thirteen days, 1; unknown, 3.

Second stage: Twenty-four hours, 1; seven days, 1; five days, 3; forty-eight hours, 1; six days, 1; eight days, 1; four days, 2; nine days, 1; unknown 2.

Entire duration: Thirty-six hours, 1; four days, 1; seven days, 1; twelve days, 2; fifteen days, 2; eight days, 1; fourteen days, 1; eleven days 1; unknown, 3.

The difficulty of estimating the duration is evident to any one. It can only be said that a short first stage, in all the instances, determined a short second stage.

A post-mortem examination was held on four of the cases. In two the disease was largely localized, once in the cerebellar region, in another over the right frontal convolutions, the presence of the tubercle causing during life the symptoms due to localized cerebral irritation at these points. The autopsy also revealed in the case of aphasia, etc., a well-known rule, that the amount of gross lesion is not to be inferred from the extent of symptoms.

Summary.—Tubercular meningitis may be considered (1) of frequent occurrence, in the middle and lower classes especially; (2) more common than other localizations of tuberculosis, except the pulmonary; and (3) much more frequent than other varieties of meningitis.

Among the *causes*, most prominent are age, hereditary predisposition to tuberculosis, poor hygienic surroundings, and insufficient and poor food.

The prime factor always to be looked for, is the presence of a primary focus, inflammatory, tubercular, or "cheesy."

The important symptoms presented in this series of cases were, in addition to the usually noted ones, emaciation, irregular fever, and gastro-intestinal disorder, without vomiting; in the succeeding stages purulent conjunctivitis, erythemas, and other vascular changes in the skin, excessive emaciation, fever, offensiveness of breath, the scaphoid abdomen, and changes in respiratory rhythm.